

Amendment and Response

Applicant: Timothy R. Ryan et al.

Serial No.: 09/982,299

Filed: October 16, 2001

Docket No.: M190.137.101

Title: ANNULOPLASTY BAND AND METHOD

IN THE CLAIMS

Please add claims 37-41.

Please cancel claims 17-29 and 34-36.

Please amend claims 1, 2, 3, and 10 as follows:

1.(Currently Amended) An annuloplasty band for repair of an atrio-ventricular valve forming a valve annulus, the band comprising:

a sheath; and

a generally arcuate stiffening element disposed within the sheath, the stiffening element extending from a first end to a second end, wherein each of the first and second ends includes an eyelet adapted to receive a suture for securing the annuloplasty band to the valve annulus;

wherein a shape of the sheath conforms to a shape of the eyelets.

2.(Currently Amended) The annuloplasty band of claim 1, wherein the valve is a mitral valve having an antero-lateral trigone, a posterior leaflet, and a postero-medial trigone;

wherein the arcuate shape of the band generally conforms to an expected natural shape of the valve annulus; and

further wherein the eyelets are adapted to secure the annuloplasty band to the intero-lateral trigone and the postero-medial trigone, respectively, via sutures.

3.(Currently Amended) The annuloplasty band of claim 1, wherein the valve is a tricuspid valve having an anterior leaflet, a posterior leaflet and a septal leaflet, each of the leaflets defined by a base relative to the valve annulus;

wherein the arcuate shape of the band generally conforms to an expected natural shape of the valve annulus; and

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further wherein the eyelets are adapted to secure the annuloplasty band to the base of the septal leaflet and the based of the anterior leaflet, respectively, via sutures.

4.(Original) The annuloplasty band of claim 1, wherein the stiffening element includes a wire having opposite ends bent back onto itself to form the eyelets.

5.(Original) The annuloplasty band of claim 4, wherein the wire is overmolded with an elastomeric material.

6.(Original) The annuloplasty band of claim 5, wherein the elastomeric material includes a material selected from the group consisting of biocompatible thermal plastic elastomer and silicone.

7.(Original) The annuloplasty band of claim 4, wherein the wire is configured to define a compound curve including an intermediate portion having a first radius of curvature and opposite end portions each having a second radius of curvature, wherein the first radius of curvature is greater than the second radius of curvature.

8.(Original) The annuloplasty band of claim 7, wherein each of the end portions includes:
a transition segment extending outwardly from the intermediate portion, the transition segment having the second radius of curvature;
an end segment extending from the transition segment, the end segment having a third radius of curvature;
wherein the second radius of curvature is greater than the third radius of curvature.

9.(Original) The annuloplasty band of claim 1, wherein the stiffening element includes a molded polymeric element.

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10.(Currently Amended) ~~The annuloplasty band of claim 1,~~ An annuloplasty band for repair of an atrio-ventricular valve forming a valve annulus, the band comprising:

a sheath; and

a generally arcuate stiffening element disposed within the sheath, the stiffening element extending from a first end to a second end, wherein each of the first and second ends includes an eyelet adapted to receive a suture for securing the annuloplasty band to the valve annulus;

wherein the sheath is marked to indicate eyelet position.

11.(Original) The annuloplasty band of claim 10, wherein the sheath is marked to indicate eyelet placement by a suture having a color different from a color of the sheath.

12.(Original) The annuloplasty band of claim 1, wherein the stiffening element is radio-opaque.

13.(Original) The annuloplasty band of claim 1, wherein the sheath is formed of a fabric material.

14.(Original) The annuloplasty band of claim 1, wherein the sheath is formed of biological tissue.

15.(Original) The annuloplasty band of claim 1, wherein the band has a thickness no greater than approximately 3 mm.

16.(Original) The annuloplasty band of claim 1, wherein the stiffening element is generally arcuate in an X-Y plane and generally saddle-shaped in a Z-plane.

17.(Cancelled)

18.(Cancelled)

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19.(Cancelled)

20.(Cancelled)

21.(Cancelled)

22.(Cancelled)

23.(Cancelled)

24.(Cancelled)

25.(Cancelled)

26.(Cancelled)

27.(Cancelled)

28.(Cancelled)

29.(Cancelled)

30.(Original) An annuloplasty band for repair of an atrio-ventricular valve of a patient's heart, the band comprising:

a sheath; and

a generally arcuate stiffening element disposed within the sheath, the stiffening element having rounded ends;

wherein the band has a thickness no greater than about 3 mm.

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31.(Original) The annuloplasty band of claim 30, wherein the band has a thickness no greater than about 2.7 mm.

32.(Original) The annuloplasty band of claim 30, wherein the band has a thickness no greater than about 2.5 mm.

33.(Original) The annuloplasty band of claim 30, wherein stiffening element forms eyelets at the ends thereof.

34.(Cancelled)

35.(Cancelled)

36.(Cancelled)

37.(New) An annuloplasty device for repair of an atrio-ventricular valve forming a valve annulus, the device comprising:

a sheath;

a reinforcing member having an eyelet, the reinforcing member being disposed within the sheath; and

a visible marking formed on the sheath, the visible marking indicating a position of the eyelet relative to the sheath.

38.(New) The annuloplasty device of claim 37, wherein the reinforcing member is generally arcuate in the X-Y plane.

39.(New) The annuloplasty device of claim 37, wherein the reinforcing member is saddle-shaped in the Z-plane.

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40.(New) The annuloplasty device of claim 37, wherein the visible marking comprises a suture having a color different from a color of the sheath.

41.(New) The annuloplasty device of claim 37, wherein the device has a thickness no greater than approximately 3 mm.
